

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number
WO 2004/028019 A1

(51) International Patent Classification⁷: **H04B 1/707**

(72) Inventor; and

(21) International Application Number:

PCT/EP2003/009657

(75) Inventor/Applicant (for US only): JONSSON, Elias
[SE/SE]; Södra Promenaden 3, S-211 29 Malmö (SE).

(22) International Filing Date: 29 August 2003 (29.08.2003)

(74) Agent: ZACCO DENMARK A/S; Hans Bekkevolds Alle
7, DK-2900 Hellerup (DK).

(25) Filing Language: English

(81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT (utility model), PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:

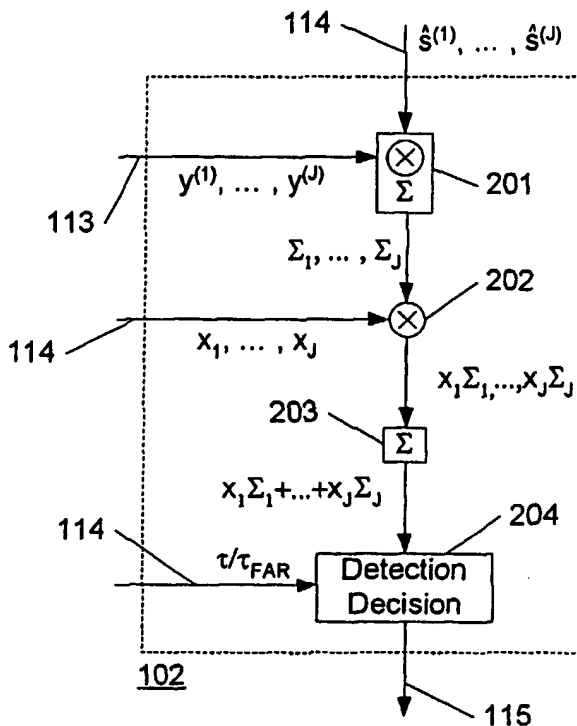
PA 2002 01400	23 September 2002 (23.09.2002)	DK
60/414,055	27 September 2002 (27.09.2002)	US
03388044.4	12 June 2003 (12.06.2003)	EP
60/482,673	26 June 2003 (26.06.2003)	US

(71) Applicant (for all designated States except US): TELEFONAKTIEBOLAGET L M ERICSSON (PUBL)
[SE/SE]; S-126 25 Stockholm (SE).

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: METHOD AND DEVICE FOR DETECTION OF A UMTS SIGNAL



(57) **Abstract:** The present invention relates to a method (and corresponding device) of detecting a first signal in a received signal using a pattern, the received signal comprising at least one signal group, each signal group comprising a number of signal symbols, the pattern comprising at least one pattern group, each pattern group comprising at least a number of pattern symbols, wherein the method comprises the steps of for each signal group multiplying each signal symbol with a corresponding pattern symbol of a pattern group and deriving a sum of the products of multiplication, applying a weight factor of one or more weight factors to each sum giving a weighted sum, where said one or more weight factors are selected to preserve an orthogonality relation of said pattern symbols of the least one pattern group, and determining if a signal is detected or not based on said one or more weighted sums.